

WHAT IS CLAIMED IS:

SUB 1

1. A data storage device for storing and accessing data in tracks on a medium, the storage device having a suspension comprising:
a metal material defining at least a portion of the suspension;
an adhesive bonded to a portion of the metal material; and
a composite material having a higher stiffness to weight ratio than the metal material and being bonded to the adhesive .
2. The data storage device of claim 1 wherein the metal material defines a load beam of the suspension and the adhesive and the composite material are positioned on the load beam.
3. The data storage device of claim 1 wherein the metal material defines a base area of the suspension and the adhesive and the composite material are positioned on the base area.
4. The data storage device of claim 1 wherein the metal material defines a spring area having a first bonding area, the composite material defines a load beam having a second bonding area and the adhesive is bonded between the first bonding area and the second bonding area.
5. The data storage device of claim 1 wherein the metal material defines a spring area having a first bonding area, the composite material defines a base area having a second bonding area and the adhesive is bonded between the first bonding area and the second bonding area.

6. The data storage device of claim 1 wherein the composite material comprises a high performance plastic.

7. The data storage device of claim 6 wherein the composite material comprises a liquid crystal polymer.

8. The data storage device of claim 1 wherein the composite material comprises a reinforced plastic.

9. The data storage device of claim 1 wherein the composite material comprises a metal matrix composite.

10. The data storage device of claim 9 wherein the metal matrix composite comprises aluminum with alumina fibers.

11. The data storage device of claim 1 wherein the composite material comprises a ceramic material.

12. The data storage device of claim 1 wherein the composite material comprises a glass material.

13. A suspension for a data storage device, the suspension comprising:

a suspension body formed from a layer of metal; and

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a composite stiffener formed from a composite material and bonded to a portion of the suspension body.

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14. The suspension of claim 13 wherein the composite stiffener is bonded to a base area of the suspension body.

15. The suspension of claim 13 wherein the composite stiffener is bonded to a load beam of the suspension body.

16. The suspension of claim 13 wherein the composite material comprises a high performance plastic.

17. The suspension of claim 13 wherein the composite material comprises a reinforced plastic.

18. The suspension of claim 13 wherein the composite material comprises a metal matrix composite.

19. The suspension of claim 13 wherein the composite material comprises a ceramic material.

20. The suspension of claim 13 wherein the composite material comprises a glass material.

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21. A suspension for a storage device, the suspension comprising:
a suspension body formed from a layer of metal; and

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stiffener means formed of a composite material for increasing the stiffness of selected areas of the suspension.

22. The suspension of claim 21 wherein the stiffener means comprises a composite material bonded to a base area of the suspension body.
23. The suspension of claim 21 wherein the stiffener means comprises a composite material bonded to a load beam of the suspension body.
24. The suspension of claim 21 wherein the stiffener means comprises a composite material having a higher stiffness to mass ratio than the layer of metal.
25. The suspension of claim 21 wherein the stiffener means comprises a metal matrix.